

## REMARKS

Applicant wishes to thank the Examiner for the careful consideration given to this case. Claims 4-9, 11-17 and 19-25 are pending in the case. Applicant acknowledges the Examiner's note that newly cited Suzuki et al. reference (JP 9-97,726) is considered to show using a plurality of organic pigments.

(1) The Examiner has rejected claims 4, 8, 9 under 35 U.S.C. 103(a) as allegedly being unpatentable over Izoard et al. in EP 419,377 in view of Suzuki et al. in Japanese Patent No. 9-71,726. According to the Examiner, Izoard et al. disclose applying a layer of mixed organic pigment material and using oxides of titanium and chromium oxide as an energy absorbing enhancer, and that the layer has a thickness of 15 microns. However Izoard et. al. do not disclose using a mixture of two different kinds of organic pigments. According to the Examiner, Suzuki et al. teach using a pigment that can include a plurality of different organic pigments. In the Examiner's opinion, it would have been obvious to adapt Izoard et al. in view of Suzuki et al. to provide the features of claims 4, 8 and 9.

In the translation of the reference provided by the Applicant in the previous office action, Iozard et al. disclose (at p. 3, paragraph 2) that "[t]he reaction caused by the laser beam can be chemical reaction resulting in a color change or vaporization of the paint, or a physical reaction producing a sufficient contrast." Izoard et al. also disclose (at p. 3, paragraph 1) that "the action of the laser beam causes a deterioration of the binder or engraves the paint, rendering said marking visible; the inscription process, carried out by the movement of the laser beam towards the points to be *engraved*" (emphasis added).

The combination as suggested by the Examiner does not include all of the elements of Applicant's claim 4. As indicated in Applicant's response to the previous Office Action, Izoard et al. disclose a marking process that includes engraving. Combining the marking

composition of Suzuki et. al. with the engraving process of Izoard et al. as the Examiner has suggested would still result in a marking process that includes engraving. In contrast, claim 4 of the instant application performs irradiation to form “a marking layer atop the substrate” rather than an engraving process. Applicant’s specification uses “atop” in the following manner (p. 9, lines 15-17): “the marking material and substrate will permanently bond together to form a new marking layer atop the substrate.” Accordingly, the formation of a permanently bonded, new marking layer atop the substrate is not taught by the combination of Izoard et al. and Suzuki et al.

Further, the combination as the Examiner has suggested is not operable. Izoard et al. further characterize the process as one where a polyurethane paint with pigments “which after laser marking, with *engraving of a depth* which accentuates contrast.” (p. 7, lines 21-24, emphasis added). Izoard et al. (p. 4, last line) also disclose that the pigments can be stable mineral pigments with a percentage by weight of the layer of paints greater than 40%. Suzuki et al. disclose (in the abstract) a resin composition that includes a thermoplastic resin about in an amount that is 100 parts by weight, metal oxides capable of forming a glaze when fired in an amount that is about 0.0001-1 part by weight, and 2 parts or less by weight of pigment or dye. Since the amount of pigment as metal oxides by weight in Izoard et al. is greater than 40% (p. 4 last line), while in Suzuki et al. (abstract) it is up to 1% by weight, Suzuki et al. do not disclose a composition that one skilled in the art would recognize as obvious to combine with the process disclosed in Izoard et al..

For these reasons, it is respectfully submitted that claim 4, as well as claims 8 and 9 which depend from claim 4, are patentable over the combination of Izoard et al. and Suzuki et al., and that the Examiner’s rejection should be withdrawn.

(2) The Examiner has rejected claim 5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. as applied to claim 4 above, and further in view of Ishiwaki et al. in Japanese Patent No. 60-199,660. For the reasons set forth above, Applicant submits that claim 4 is patentable. Since claim 5 depends from claim 4, Applicant submits that claim 5 is also patentable.

The combination of Izoard et al., Suzuki et al., and Ishikawa et al., would still result in an engraved marking on the substrate, even if a laminar flow of air over the substrate was provided. Accordingly, Applicant respectfully submits that the combination does not teach or suggest the method of claim 5, and Applicant requests that the Examiner's rejection be withdrawn.

(3) The Examiner has rejected Claim 6 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. as applied to claim 4 above, and further in view of Sadamoto et al. in Japanese Patent No. 8-174,263, Murakami et al. in Japanese Patent No. 63-216,790 and Spanjer in U.S. Patent No. 4,654,290. This combination would still result in an engraved marking on the substrate. Accordingly, Applicant respectfully submits that the combination does not teach or suggest the method of claim 6, and Applicant requests that the Examiner's rejection be withdrawn.

(4) The Examiner has rejected Claims 11, 20 and 21 under 35 U.S.C. 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. and Suess et al. in U.S. Patent No. 5,985,078. According to the Examiner, the Izoard et al. reference meets all of the limitations of claims 11-20 except a mixture of organic pigments and a carrier. The Examiner states that Suzuki et al. teach a pigment that can include two different organic pigments, while Seuss et al. disclose a carrier. According to the Examiner, it would have been obvious to adapt Izoard et al. in view of Suzuki et al. and Suess et al. to provide the limitations of claim 11.

The combination as suggested by the Examiner does not include all of the elements of Applicant's claim 11. As described above, Izoard et al. disclose a marking process that includes engraving. Also as described above, combining the marking composition of Suzuki et. al. with the engraving process of Izoard et al. as the Examiner has suggested would still result in a marking process that includes engraving. The addition of the Suess et al. disclosure does not alter this result. Claim 11 of the instant application forms "a marking layer atop the substrate" and does not include an engraving process. Applicant's specification uses "atop" in the following manner (p. 9, lines 15-17): "the marking material and substrate will permanently bond together to form a new marking layer atop the substrate." Accordingly, the formation of a permanently bonded, new marking layer atop the substrate is not taught by the cited combination.

Further, the combination as the Examiner has suggested is not operable. As noted above, the composition of Izoard et al. is incompatible with that of Suess et al. since the amount of pigment as metal oxides by weight in Izoard et al. is greater than 40% (p. 4 last line), while in Suzuki et al. (abstract) it is up to 1% by weight. There is not a reasonable chance that combining the coating resin of Suzuki et. al. with the carrier of Suess et. al. would provide compatibility, since Suess et al. do not disclose the use of *any* metal oxides as a pigment. Rather, the only disclosure of metal oxides in Suess et al. is that it may be used in very small amounts in an adhesive layer. Thus, the pigment of Suess et al. is also incompatible with the process disclosed in Izoard et al.

(5) The Examiner has rejected claims 12, 16, 17 and 22 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. in U.S. Patent No. 5,840,449. As described above, the combination of the Izoard et al. and Suzuki et al. references is inoperable. However, if the combination were operable it would result in a

process that engraves the substrate without placing a mark atop the substrate. The addition of the Zambounis et al. reference does not change this result. Zambounis et al. teach (see column 17, lines 37-39) applying a coating by a stencil to part of the workpiece. When the process of Izoard et al. is combined with this process, the result is still an engraved mark. Both claim 12 and claim 22 require that the marking layer be formed “atop the substrate” rather than be engraved into the substrate. Accordingly, Applicant respectfully submits that claims 12 and 22, as well all claims 12 and 13 which depend from claim 12 are patentable over the cited references.

(6) The Examiner has rejected claim 13 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. as applied to claim 12 above, and further in view of Ishiwaki et al. in Japanese Patent No. 60-199,690. For the reasons set forth above relating to claim 12, Applicant submits that claim 12 is patentable. Since claim 13 depends from claim 12, for the same reasons Applicant also submits that claim 13 is also patentable.

(7) The Examiner has rejected claim 14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. as applied to claim 12 above, and further in view of Sadamoto et al. in Japanese Patent No. 8-174,263, Murakami et al. in Japanese Patent No. 63-216,790 and Spanjer in U.S. Patent No. 4,654,290. For the reasons set forth above relating to claim 12, Applicant submits that claim 12 is patentable. Since claim 14 depends from claim 12, for the same reasons Applicant also submits that claim 14 is also patentable.

(8) The Examiner has rejected claim 15 under 35 U.S.C. 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. as applied to claim 12 above, and further in view of Sadamoto et al. in Japanese Patent No. 8-174,263. For the

reasons set forth above relating to claim 12, Applicant submits that claim 12 is patentable. Since claim 15 depends from claim 12, for the same reasons Applicant also submits that claim 13 is also patentable.

(10) The Examiner has rejected claims 19, 23-25 under 35 U.S.C. 103(a) as allegedly being unpatentable over Izoard et al. in view of Suzuki et al. and Sadamoto et al. in Japanese Patent No. 8-174,263. As described above, the combination of the Izoard et al. and Suzuki et al. references is inoperable. However, if the combination were operable it would result in a process that engraves the substrate without placing a mark atop the substrate. According to the Examiner, Sadamoto et al. teach that the part of the marking layer that has been treated remains even after wiping a cloth over the substrate surface (see paragraph 32). Applicant respectfully submits that this additional feature does not render the combination of Izoard et al. and Suzuki et al. operable or obvious to one skilled in the art. Accordingly, Applicant respectfully submits that claims 19 and 23-25 are patentable over the cited references.

In view of the remarks presented above, it is believed that pending claims 4-9, 11-17, and 19-25 are in condition for allowance, and notice to such effect is respectfully requested. The Commissioner is hereby authorized to charge my deposit account No. 50-0436 for any fees that may be due in connection with this response that have not been paid by the enclosed check. Should the Examiner have any questions regarding these remarks, or *if the Examiner does not believe that the claims are in condition for allowance in the next action, the Application respectfully asks the Examiner to initiate a telephone conference with the undersigned.*

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'JMS', with a stylized flourish extending from the end.

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